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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MEW, KEVIN D

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/599,947

**Applicant(s)**

KUNDAJE ET AL.

**Examiner**

Kevin Mew

**Art Unit**

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-30, 32-36, 39-59 and 61-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39-59 and 61-70 is/are allowed.
- 6) ☒ Claim(s) 18-30 and 32-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Response to Amendment***

1. Applicant's arguments/remarks filed on 8/17/2004 regarding claims 18-30, 32-36, 39-59, 61-70 have been considered and are currently pending. Claims 1-17, 31, 37-38, 60 have been canceled by the Applicant.
2. Acknowledgement is made of the amended drawings regarding the objection to the deficiency cited in the previous Office Action. The objection to the drawings has been withdrawn.
3. Acknowledgement is made of the amended claims regarding the 35 USC § 112 rejection to claims 46 and 54 cited in the previous Office Action. The 35 USC § 112 rejection to claims 46, 54 has been withdrawn.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 18-30, 32-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Albal (US Publication 2003/0185375) in view of Hogan et al. (USP 5,633,919).

Regarding claim 19, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

storing the at least one order record for the calling party telephone number (**database server unit stores user's home telephone number and personal account information required for the operation of the system**, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party

activations, disconnections and changes (**call control unit sends billing record data to the billing server unit**, see lines 1-8, paragraph 0063, page 6); and

processing at least one call detail record including at least a terminating access identification (ID) (**the billing server unit can use caller line identification CLI of the communication device to properly bill the user**, see lines 9-10, paragraph 0063, page 6).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Abal does not explicitly show updating billing system order record and updating the network order record.

However, Hogan discloses a billing system for a call processing system wherein the billing server updates the billing information record to include the time at which the call was terminated (see col. 62, lines 1-64). Hogan further discloses that the master and slave databases are updated with the changes in order entry HA104 (see col. 79, lines 1-65, col. 80, lines 53-65 and Fig. 93).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice call billing method and system of Abal with the teaching of Hogan such that it will update the billing information record and update the master and slave databases with changes in the order entry. The motivation to do so is to calculate the duration of the call, and apply the rate file associated with the order entry record of the call so that the proper billing amount can be determined.

Regarding claim 20, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

storing the at least one order record for the calling party telephone number (**database server unit stores user's home telephone number and personal account information required for the operation of the system**, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party activations, disconnections and changes (**call control unit sends billing record data to the billing server unit**, see lines 1-8, paragraph 0063, page 6); and

processing at least one call detail record including at least a terminating access identification (ID) (**the billing server unit can use caller line identification CLI of the communication device to properly bill the user**, see lines 9-10, paragraph 0063, page 6).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech

inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Abal does not explicitly show synchronizing changes due to calling party activations, disconnections, changes between the network system and a billing system includes ensuring for each calling party telephone number registered for the VOIP service that the billing system order record and network order record both reflect the same numbering plan changes, activations, disconnections and other changes.

However, Hogan discloses that the billing system applies rate information (rate plan) in a rate file (network order record) to the completed call parameters contained within the billing information record (billing system order record, see abstract), including the start time (activations) and stop time (disconnections) of the call (see col. 62, lines 1-65).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the voice call billing method and system of Abal with the



teaching of Hogan such that billing system record will synchronize the network order record on the changes in numbering plan, activations, disconnections. The motivation to do so is to calculate the duration of the call, and apply the rate file associated with the order entry record of the call so that the proper billing amount can be determined.

Regarding claim 18, Albal discloses the method of claim 19, wherein storing each of the at least one order records for the calling party telephone number's VOIP service comprises:

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

Regarding claim 21, the method of claim 20 further comprising:

receiving a direct-dialed voice-band call from a calling party telephone number (**the communication node receives direct dialed call from the caller**, see lines 14-17, paragraph 0021, page 2 and element 54, Fig. 2), the direct-dialed voice-band call being associated with a destination number (**the caller can directly dial the phone number of the called party**, see lines 14-17, paragraph 0021, page 2); and

automatically routing the direct-dialed voice-band call to be routed to the destination number (**the communication node then routes the call automatically to the called party**, see lines 14-17, paragraph 0021, page 2) if the calling party telephone number is registered (**when a user accesses the electronic network from a communication device registered with the**

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system, see lines 1-8, paragraph 0040, page 4, and lines 1-3, paragraph 0037, and elements 212, 220, Fig. 8) and if the destination number of the direct-dialed telephone call is accessible by the VOIP service (**the communication node then routes the call automatically to the called party using the phone number of the called party**, see lines 14-17, paragraph 0021, page 2).

Regarding claims 22, Albal further discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21 further comprising:

receiving a registration for the calling party's telephone number for the VOIP service prior to the calling party placing the direct-dialed telephone call (see lines 1-8, paragraph 0040, page 4).

Regarding claim 23, Albal further discloses all the aspects of the claimed invention set forth in the rejection of claim 22 above. Albal further discloses the method of claim 22 further comprising: storing a VOIP service registration record for the calling party telephone number (user's home phone number, see lines 1-8, paragraph 0040, page 4).

Regarding claims 24, Albal further discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21 further comprising:

storing an allowable destination list, which identifies the destination numbers accessible using the VOIP service, prior to the calling party placing the direct-dialed telephone call (a caller

or subscriber can modify an address book stored in the electronic network 16 and the address book stores telephone numbers of the called parties, see lines 1-5, paragraph 0017, page 2).

Regarding claim 25, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 21 above. Albal further discloses the method of claim 21, wherein automatically routing the direct-dialed voice-band call to the destination number (see lines 14-17, paragraph 0021, page 2) as a voice-over-Internet protocol (VOIP) telephone call (see lines 9-12, paragraph 0060, page 6 and element 248, Fig. 8) if the calling party telephone number is registered for a VOIP service (see lines 1-8, paragraph 0040, page 4 and lines 1-3, paragraph 0037, and elements 212, 220, Fig. 8) and the destination number of the direct-dialed telephone call is accessible by the VOIP service (see lines 14-17, paragraph 0021, page 2) comprises:

determining if a VOIP service registration record for the calling party telephone number exists (see lines 1-8, paragraph 0040, page 4); and

if the VOIP service registration record for the calling party telephone number exists, determining if the destination number of the direct-dialed voice band call is accessible by the VOIP service (see lines 1-8, paragraph 0040, page 4).

Regarding claims 26 & 28, Albal discloses all the aspects of the claimed invention set forth in the rejection of claim 25 above. Albal further discloses the method of claim 25 further comprising:

if the calling party's telephone number is registered for the VOIP service and if the destination number of the direct-dialed voice-band call is accessible by the VOIP service, receiving an indication to route the direct-dialed voice-band call over the IP network.

Abal does not specifically disclose receiving an indication to route the direct-dialed voice-band call over a circuit-switched public switched telephone network (PSTN) if the condition does not happen otherwise.

However, Abal discloses both an integrated network that comprises both a PSTN network and a VOIP network in the communication node. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the routing features of the communication node of Abal such that it would route the direct-dialed voice call over a PSTN network when rather a VOIP network when the user is not registered with the VOIP service nor the number destination number is not accessible by the VOIP service such as the integrated network taught by Abal. The motivation to do so is to allow users to make direct dialed calls uninterrupted over the circuit-switched PSTN network in case the VOIP network is not available to the caller because it would allow users to make calls to the called party without the nuisance of having call drops.

Regarding claim 27, Abal discloses the method of claim 26 further comprising initiating a billing record for the direct-dialed voice-band call if the indication is to route the direct-dialed voice-band call over the IP network, wherein the billing record is associated with the calling party's telephone number (see lines 1-10, paragraph 0063, page 6).

Regarding claim 29, Albal discloses the method of claim 28 further comprising: receiving notice of the direct-dialed voice-band call clearing (see lines 5-7, paragraph 0063, page 6).

Regarding claim 30, Albal discloses the method of claim 29 further comprising: closing the billing record for the direct-dialed voice-band call (it is inherent that the billing record will be closed upon call clearing).

Regarding claim 32, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

storing the at least one order record for the calling party telephone number (**database server unit stores user's home telephone number and personal account information required for the operation of the system**, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party activations, disconnections and changes (**call control unit sends billing record data to the billing server unit**, see lines 1-8, paragraph 0063, page 6); and

processing at least one call detail record including at least a terminating access identification (ID) (**the billing server unit can use caller line identification CLI of the communication device to properly bill the user**, see lines 9-10, paragraph 0063, page 6).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the

service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Abal does not explicitly show updating the at least one order record to compensate for numbering plan changes.

However, Hogan discloses that the billing system applies rate information (rate plan) in a rate file (order record) to the completed call parameters contained within the billing information record (billing system order record, see abstract).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the voice call billing method and system of Abal with the teaching of Hogan such that billing system record will update the billing information record based on the changes in the rate plan. The motivation to do so is to synchronize the rate file with the billing information record so that the proper billing amount can be determined for the corresponding rate plan of the call.

Regarding claim 33, Albal discloses the article of manufacture of claim 31, wherein said generating each of the at least one order records for the calling party telephone number's VOIP service step further comprises:

generating a billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

generating a network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

Regarding claim 34, Albal discloses the article of manufacture of claim 33, wherein said storing each of the at least one order records for the calling party telephone number's VOIP service step further comprises:

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

Regarding claim 35, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:



receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

generating a billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

generating a network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

storing the at least one order record for the calling party telephone number (**database server unit stores user's home telephone number and personal account information required for the operation of the system**, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party

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activations, disconnections and changes (**call control unit sends billing record data to the billing server unit**, see lines 1-8, paragraph 0063, page 6); and

processing at least one call detail record including at least a terminating access identification (ID) (**the billing server unit can use caller line identification CLI of the communication device to properly bill the user**, see lines 9-10, paragraph 0063, page 6).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Abal does not explicitly show updating billing system order record and updating the network order record.

However, Hogan discloses a billing system for a call processing system wherein the billing server updates the billing information record to include the time at which the call was terminated (see col. 62, lines 1-64). Hogan further discloses that the master and slave databases are updated with the changes in order entry HA104 (see col. 79, lines 1-65, col. 80, lines 53-65 and Fig. 93).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the voice call billing method and system of Abal with the teaching of Hogan such that it will update the billing information record and update the master and slave databases with changes in the order entry. The motivation to do so is to calculate the duration of the call, and apply the rate file associated with the order entry record of the call so that the proper billing amount can be determined.

Regarding claim 36, Albal discloses an article of manufacture comprising a computer-readable medium having stored thereon instructions adapted to be executed by a processor, the instructions which, when executed, define a series of steps to automatically provision and maintain a network system (**computers which may be programmed to execute the operations of functions and the communication node can be carried out in the form of hardware components and circuit designs, software or computer programming or a combination thereof**, see lines 16-22, paragraph 0043, page 5) to perform a method for automatically provisioning and maintaining a network system for routing direct-dialed voice-band calls from a calling party telephone number comprising:

receiving a service registration for the calling party telephone number (see lines 1-3, paragraph 0040, page 4);

automatically generating at least one order record for the calling party telephone number (see lines 1-3, paragraph 0040, page 4; note that it is inherent that a record will be generated upon receipt of the service registration);

generating a billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

generating a network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

storing the at least one order record for the calling party telephone number (**database server unit stores user's home telephone number and personal account information required for the operation of the system**, see lines 1-3, paragraph 0040, page 4 and lines 1-13, paragraph 0065, page 7);

storing the billing system order record (billing information, see lines 2-13, paragraph 0065, pages 6 and 7); and

storing the network order record (personal account information, see lines 2-13, paragraph 0065, pages 6 and 7).

managing the billing interaction for a billed account between at least one calling party telephone number and a billed telephone number (see lines 1-5, paragraph 0063, page 6);

synchronizing changes made to the stored at least one order record for the calling party telephone number, between the network system and a billing system, due to calling party

activations, disconnections and changes (**call control unit sends billing record data to the billing server unit**, see lines 1-8, paragraph 0063, page 6); and

processing at least one call detail record including at least a terminating access identification (ID) (**the billing server unit can use caller line identification CLI of the communication device to properly bill the user**, see lines 9-10, paragraph 0063, page 6).

Abal does not specifically disclose routing direct-dialed voice-band calls over an Internet protocol (IP) network and the service registered is a VOIP service. However, Abal discloses routing direct dial call dynamically from a caller to a called party (see lines 14-17, paragraph 0021, page 2). Abal further discloses the VOIP unit in a transport system that converts speech inputs into a VOIP call to be transmitted over the Internet (see lines 1-12, paragraph 0060, page 6).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the direct dial feature with the VOIP call routing feature of Abal such that direct-dialed voice-band calls are routed over an Internet protocol (IP) network and the service registered with the communication node of Abal is a VOIP service such as the VOIP routing and direct-dialed registration service taught by Abal. The motivation to do so is to allow users to make direct dialed calls over the Internet in order to reduce user calling charges because the Internet is a public packet-based network that allows voice inputs to be transmitted as VOIP data packets without setting up a circuit-switched connection.

Abal does not explicitly show synchronizing changes due to calling party activations, disconnections, changes between the network system and a billing system includes ensuring for

each calling party telephone number registered for the VOIP service that the billing system order record and network order record both reflect the same numbering plan changes, activations, disconnections and other changes.

However, Hogan discloses that the billing system applies rate information (rate plan) in a rate file (network order record) to the completed call parameters contained within the billing information record (billing system order record, see abstract), including the start time (activations) and stop time (disconnections) of the call (see col. 62, lines 1-65).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to combine the voice call billing method and system of Abal with the teaching of Hogan such that billing system record will synchronize the network order record on the changes in numbering plan, activations, disconnections. The motivation to do so is to calculate the duration of the call, and apply the rate file associated with the order entry record of the call so that the proper billing amount can be determined.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 18-30, 32-36 have been considered but are moot in view of the new ground(s) of rejection.

*Allowable Subject Matter*

6. Claims 39-42, 43-49, 50-54, 55-59, 61-65, 66-70 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 39, the first voice-band switch is an electronic switching system (ESS) originating assist switch (OAS), the database is a universal subscriber data structure (USDS) and the first voice-band switch is communicatively linked to an IP gateway.

In claim 43, the apparatus of claim 37, wherein the first voice-band switch is further configured, if the database contains information that the calling party's telephone number is only registered for non-single-stage VOIP services or if the database contains information that the calling party's telephone number is registered for the single-stage VOIP service and the destination number of the direct-dialed voice-band call is inaccessible by the VOIP service, to automatically designate the direct-dialed voice-band call as a circuit-switched call; and to automatically route the direct-dialed voice-band call for routing as a circuit-switched call if the direct-dialed voice-band call is designated as a circuit switched call.

In claims 45, 70, the provisioning system comprises:

a billing system coupled to the NPP, wherein the billing system being configured to create bills based on usage, a terminating access ID and a calling plan uniform service order code (USOC); and

a customer service message system (CSMS) coupled to the NPP, wherein the CSMS being configured to synchronize between the first voice-band switch and the database which is

configured to store calling party telephone numbers that are registered for the VOIP service, USOC information and destination number information.

In claim 50, an apparatus, comprising: the first voice-band switch is an electronic switching system (ESS) originating assist switch (OAS), the second voice-band switch is an ESS handoff assist switch (HAS), the database is a universal subscriber data structure (USDS) and the second voice-band switch is communicatively linked to an IP gateway.

In claim 55, an apparatus, comprising:

an electronic switching system (ESS) originating assist switch (OAS), the OAS being configured to receive a direct-dialed voice-band call from a calling party's telephone number, the direct-dialed voice-band call being associated with a destination telephone number, to determine whether to route the direct dialed voice-band call over an Internet protocol (IP) network or a circuit switched network, and, if it is determined to route the direct-dialed voice-band call over the IP network, the OAS is configured to transmit the direct-dialed voice-band call to the IP network, or, if it is determined to continue to route the direct-dialed voice-band call over the circuit-switched network, the OAS is configured to transmit the direct-dialed voice-band call to the circuit-switched network; and

an universal subscriber data structure (USDS) coupled to the ESS OAS, the USDS being configured to store service information on a plurality of calling party telephone numbers, to store information on which destination telephone numbers are accessible using a voice-over-Internet protocol (VOIP) service, to receive the calling party's telephone number and the destination telephone number of the direct-dialed voice-band call from the OAS, to determine if the calling



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party's telephone number is registered for the VOIP service, and, if the calling party's telephone number is registered for the VOIP service, to determine if the destination telephone number is accessible using the VOIP service, and to return a partial routing instruction and service information to the OAS.

In claim 61, the CSMS component is further configured to administer a country code field which is stored in the database.

In claims 66-69, the first voice-band switch being an electronic switching system (ESS) originating assist switch (OAS), the second voice-band switch being an ESS handoff assist switch (HAS) and the database being a universal subscriber data structure (USDS).

*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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A handwritten signature in black ink, appearing to be 'W. Chin', with a long horizontal line extending to the right.